

## ABSTRACT OF THE DISCLOSURE

An apparatus includes an optical element, a GRIN lens, and a detector. The optical element has a first optical aperture. The GRIN lens has first and second ends. The first end of the GRIN lens is positioned to receive light from the first optical  
5 aperture. The detector is configured to measure values of a characteristic of light emitted from the first end in response to multi-photon absorption events in a sample illuminated by light from the second end of the endoscopic probe.

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